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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,343	12/22/2000	Moriyasu Shimojo	Q62338	1114

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03/15/2002

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EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT	PAPER NUMBER
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1714

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DATE MAILED: 03/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/720,343

Applicant(s)

SHIMOJO ET AL.

Examiner

Katarzyna W. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 8 is not in an alternate form. In addition claim 8 depends on already multiply dependent claim 7. See MPEP § 608.01(n). For more prompt prosecution of the case, claim 8 has been treated as dependent on claim 1.
2. Claim 7 is objected to because of the following informalities: In claim 7, line 2, the applicant has misspelled term "thermoplastic". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 8, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sadatoshi (US 5,723,527).

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The prior art of Sadatoshi discloses composition for injection molded articles having excellent rigidity and impact resistance. The composition of Sadatoshi is particularly useful in making an instrumental panel for automobiles.

The composition of Sadatoshi comprises thermoplastic crystalline polypropylene, rubbers and talc having particle size of less than 4 microns.

The crystalline polypropylene of the prior art of Sadatoshi has isotactic fraction of 0.975 or more and intrinsic viscosity of 0.95-1.15 dl/g as measured in tetraline at 135°C. The Q-value of the polypropylene is 3.0-5.0. The crystalline polypropylene of the prior art of Sadatoshi also includes crystalline ethylene-propylene copolymer where the first block is ethylene/propylene copolymer and second block is propylene. The propylene to ethylene content ratio is in a range of 75/25 to 60/40 and the intrinsic viscosity is 4.5-5.5 dl/g.

The rubber component of the prior art of Sadatoshi is actually a mixture of rubbers. The rubber component comprises 2-8% ethylene-butene-1 rubber, 2-8% of ethylene propylene rubber and as disclosed in the specification vinyl aromatic compound containing rubber (col. 8). Although the amount of the vinyl aromatic compound containing rubber is not explicitly disclosed, the sum of the two olefin rubbers is already at least 10% by weight therefore the total amount of rubber component satisfies the present claims.

The ethylene-butene rubber has butene content of 15-20%, Q-value of 2.7 or less. The ethylene-propylene rubber has propylene content of 20-30% and Q-value of 2.7 or less.

Talc component of the prior art of Sadatoshi as disclosed in the Abstract of the prior art has particle size of less than 4 microns. The examples disclosed in the prior art further teach that

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the actually utilized has particle size of 2 microns. According to the claims of the prior art of Sadatoshi, talc is utilized in the amount of 10-20 % by weight.

Although the prior art of Sadatoshi does not explicitly disclose the proviso's of the claim 1, these would be inherent result of the composition for the following reasons: a) The X-ray scattering data depends on the composition, so if the components and the amounts disclosed in the composition and present invention as well as the properties are all the same, the 12-24 nm would be a signature of the vinyl aromatic compound. B) If the elastomers and crystalline polymers of the prior art and the present invention and talc additive are again the same, then if vinyl aromatic rubber undergoes micro separation in one case, it would do the same in another absent unexpected results. C) Glass transition temperature depends on properties of the polymers such as molecular weight or intrinsic viscosities as well as the rest of the composition. Since these properties overlap in both prior art and present invention then the glass transition temperature will inherently overlap as well.

The final composition of the prior art of Sadatoshi also has melt flow rate of 20-30 g/10 min and it satisfies the following conditions:

1) The sum of all the components is 100 and since the amount of ethylene-octene copolymer can be 0 then

2) content of the rubbers and copolymers/100 is in a range of 0.05-0.1, 0.15-0.25 and 0.2-0.3, wherein total content is greater than 0.1.

In the light of the above disclosure, the prior art of Sadatoshi anticipates claims rejected above.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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8. Claims 5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadatoshi (US 5,723,527) in view of Kobayashi (US 5,880,198).

The discussion of the disclosure of the prior art of Sadatoshi from paragraph 3 of this office action is incorporated here by reference.

The difference, between the present invention and the disclosure of the prior art of Sadatoshi is the limitation of the amount of the vinyl aromatic compound containing rubber.

With respect to the above difference the prior art of Kobayashi discloses composition comprising polypropylene, styrene containing elastomer and talc. The goal of the composition disclosed by Kobayashi is to also obtain a composition having excellent mechanical strength, impact resistance and injection moldability. The composition of the prior art of Kobayashi can also be utilized in automobile industry, therefore it would obviously require very similar properties than the composition of Sadatoshi.

The composition of the prior art of Kobayashi utilizes in addition to polypropylene based polymer and talcs a styrene containing elastomer. The amount of the styrene containing elastomer as disclosed in claim 1 of the prior art of prior art of 10-30% by weight. The styrene containing elastomer of Kobayashi has melt flow rate of 0.5-1.6 g/10 min and styrene content of 10-30 % by weight, which is within the limits of the present invention.

Elastomers are very well known in the art as impact modifiers. Utilizing styrene containing elastomers along with alpha-olefin rubbers would work in an additive cumulative manner and it is well settled that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Linder* 457 F,2d 506,509, 173 USPQ 356, 359 (CCPA 1972).

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In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to add the elastomer of Kobayashi in a disclosed amount to the composition of Sadatoshi and thereby obtain the claimed invention. The final compositions would still give a polypropylene based moldable composition having desired melt flow rate (see claim 1 of Kobayashi).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sadatoshi (US 5,723,527) in view of Kobayashi (US 5,880,198) as applied to claims 1-5, 7-9 above, and further in view of Shimojo (US 6,011,102).

The discussion of the disclosure of the prior art of Sadatoshi and Kobayashi from paragraph 3 and 7 above is incorporated here by reference.

The difference between the present invention and the disclosure of the prior of Sadatoshi and Kobayashi is the recitation of the amount of the ethylene-octene rubber component.

With respect to the above disclosure, the prior art of Shimojo discloses composition, which is to be injection molded to form an article for automobile parts.

The composition of the prior art of Shimojo contains three basic ingredients, which are polypropylene based polymer, elastomer and talc.

The elastomer of the prior art of Shimojo is ethylene-octene copolymer, which has melt flow rate of 0.5-10 g/10 min and octane content of 20-25 % by weight. The amount of the ethylene/octane elastomer utilized in the composition of Shimojo is 10-15 % by weight.

Elastomers are very well known in the art as impact modifiers. Utilizing alpha-olefin rubbers where the olefin is octane in addition to rubbers disclosed above would work in an

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additive cumulative manner and it is well settled that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Linder* 457 F.2d 506,509, 173 USPQ 356, 359 (CCPA 1972).

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to add the elastomer of Shimojo in a disclosed amount to the composition of Sadatoshi and Kobayashi and thereby obtain the claimed invention. The final compositions would still give a polypropylene based moldable composition with use in automobile industry.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamamoto (US 5,391,618), Srinivasan (US 5,763,534), Nishio (US 6,180,709 B1), Zyagawa (US 5,750,612), Nagai (US 5,889,099), Kuramochi (US 6,323,286 B1), Okayama (US 6,300,415 B1), Hirata (US 5,965,654).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna W. Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KIWL
February 28, 2002

EDWARD J. CAIN
PRIMARY EXAMINER
GROUP 1500

A handwritten signature in black ink, appearing to read 'Ed Cain', is written below the printed name and title.